# REMARKS

## I. Summary of Office Action

Claims 1-12 are pending in the application.

The Examiner rejected claim 1 under 35 U.S.C. § 102(b) as being anticipated by Lim et al. Customizable Virtual Private Network Service with QoS, August 1, 2000 (hereinafter Lim).

The Examiner rejected claims 2-12 under 35 U.S.C. § 103(a) as being unpatentable over Alferi et al. U.S. Patent Publication No.: 2002/0099849 (hereafter Alfieri), in view of Dalton et. al. U.S. Patent Publication No.: .2003/0172109 (hereafter Dalton).

## II. Summary of Applicants' Reply

Claims 1, 2 and 12 have been amended. The amendments are supported by the original application (see, e.g., p. 22, lines 1-9). New claims 21-24 have been added to the patent application. Support for these claims can be found, e.g., on pages 17 and 21-23.

Applicants respectfully traverse the Examiner's rejections under 35 U.S.C. § 102(b) and under 35 U.S.C. § 103(a). Reconsideration of this application and prompt allowance is respectfully requested.

## III. Summary of Telephonic Interview

Applicants thank Examiner Hoang for his time on September 19th for the telephonic interview. Mr. Harper, one of the inventors, provided some background regarding the disclosed subject matter and the claim limitations. Limitations of claims 1, 2, and 12 were discussed and distinctions were made over the prior art of record. In particular, Mr. Harper discussed how Lim does not teach or suggest running generic application code.

## IV. 35 U.S.C. § 102 Rejection

The Examiner rejected claim 1 under 35 U.S.C. § 102(b) as being anticipated by Lim. Claim 1 of the application requires:

"running application code that is generically written for an operating system on an operating system that operates in multiple contexts."

"Running application code that is generically written for an operating system" allows a user to load and run off the shelf application code with few or no modifications to the application code (see, e.g., p. 22, ln. 1-5). This allows users to take advantage of available application code and implement it on the system without much or any further modification and to avoid the expense of customizing code to run on the system. Additionally, the user has a choice to buy and run application code rather than being forced to write customized code to run on the device. Thus, even though the operating system "operates in multiple contexts," application code that was written for an operating system that was not intended to operate in multiple contexts will still work.

Unlike claim 1, Lim teaches providing an open program interface for a user to program the common physical infrastructure to run customized routing and signaling protocols on a customizable control plane (see p. 2, right column, 2nd ¶). Value-added services are provided through the programmable interface (see p. 4, right column, under "Virtualizable VNS Routers"). In Lim, this programmability of the Darwin system is implemented through mobile code segments, that are used to create "control plane protocols, customized control policies, or customized services" (see p. 10, section 3.2.1). Further, Lim teaches away from running multiple independent per-VPN routing daemons because it does not scale well to large numbers of VPNs and independent per-VPN routing daemons are needed to allow separation of routing domains (see p. 10-11, section 3.2.2 Routing Virtualization). This scaling problem does not let Lim practically run multiple independent VPNs. Thus, Lim teaches writing customized code to provide other applications or services and does not practically allow running of an operating system over multiple contexts.

Applicants had difficulty finding any reference to running application code in the Examiner's citations for Lim. The Examiner pointed to FIG. 10, which shows virtualization of a forwarding mechanism in a router kernel; section 3.3.2, which is related to FIG. 10 and routing and packet forwarding; and lines on p. 3, which was a full page graphic. When applicants looked through the entire reference, they could only find references to providing a programming interface to allow users to develop programs to run other services. Applicants could find no

mention "application code" or even applications that could be run on the FreeBSD operation system without the user programming the application through the programming interface.

For at least the foregoing reasons, applicants respectfully submit that independent claim 1 is allowable over Lim. Therefore, applicants respectfully request that the rejection of this claim be withdrawn by the Examiner.

## V. 35 U.S.C. § 103 Rejection

The Examiner rejected claims 2-12 under 35 U.S.C. § 103(a) as being obvious over the Alfieri in view of Dalton. Claims 2 and 12 respectively require:

> "running separate operating system instances on a plurality of processors residing on the network device and implementing one IP host" (claim 2)
>
> "a plurality of processors residing in the network device implementing one IP host while running multiple operating system instances" (claim 12)

Unlike claims 2 and 12, Alfieri teaches using virtual access routers (VARs) that reside within a router and that each resemble an IP host (see ¶¶ 23-26). Each VAR uses virtual tunnel adapters (VTAs) to create tunnels within the wide-area network to connect VARs (¶ 26). The VTAs resemble IP hosts residing in the wide-area routed network and have host IP addresses in the address space of the wide area network (¶ 26). This is in contrast to implementing a "one IP host" with more than one "operating system instances" as claims 2 and 12 require.

Dalton is primarily concerned with security in an operating system and discusses using protected compartments in an operating system (see abstract). Dalton discloses a single operating system and modifications to make it more secure. Dalton does not show or suggest "running separate operating system instances on a plurality of processors" or "a plurality of processors residing in a network device implementing a single IP host while running multiple operating system instances." Further, applicants could not find any mention of operating systems or kernels in Alfieri. Thus, the combination of Dalton and Alfieri does not show or suggest independent claims 2 and 12 or the claims which depend therefrom.

For at least the foregoing reasons, applicants respectfully submit that independent claims 2 and 12 are allowable over the combination of Alferi and Dalton. Furthermore, claims 3-11,

which depend from claim 2 are allowable for at least the same reasons. Therefore, applicants respectfully requests that the rejection of these claims be withdrawn by the Examiner.

## VI. New Claims

Independent claim 23 should be found allowable for at least the same reasons presented in sections IV and V above. Dependent claims 21, 22, and 24 should be found allowable for at least the same reasons as presented above for the independent claims from which they depend.

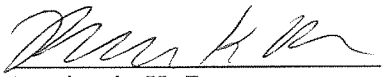
## VII. Authorization

The Commissioner is hereby authorized to charge any additional fees, which may be required for this amendment, or credit any overpayment to Deposit Account No. 08-0219

In the event that an Extension of Time is required, or which may be required in addition to that requested in a petition for an Extension of Time, the Commissioner is requested to grant a petition for that Extension of Time which is required to make this response timely and is hereby authorized to charge any fee for such an Extension of Time or credit any overpayment for an Extension of Time to Deposit Account No. 08-0219.

Respectfully submitted,

Date: 10/26/07



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